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|-----------------|-------------|--|---------------------|------------------|
| 10/020,054      | 12/07/2001  | Bernardus Hendrikus Wilhelmus Hendriks | NL010890            | 4542             |

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EXAMINER

PATEL, GAUTAM

ART UNIT PAPER NUMBER

2655

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/020,054

Applicant(s)

HENDRIKS ET AL.

Examiner

Gautam R. Patel

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 10-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. <u>g</u> . |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4 &amp; 5</u> . | 6) <input type="checkbox"/> Other: _____.   |

### **DETAILED ACTION**

1. Claims 1-18 are pending for the examination.

### **Election/Restriction**

2. Claims 10-18 are withdrawn from further consideration by the examiner, 37 C.F.R. § 1.142(b) as being drawn to fig. 1 [species I]; for optical scanning device for scanning an optical record carrier. Election was made with traverse of claims 1-18

Applicant's election with traverse of group II in Paper No. 7 is acknowledged. The traversal is on the ground(s) that "There must be serious burden on the Examiner if the restriction is required... and the examination of non-elected group of inventions regardless that they may be in different USPTO classification . " and "Claims to be restricted to different species must be mutually exclusive."

This is not found persuasive because:

FIRST: All claims are selected by the Applicants so argument regarding which claims should or should not be selected is kind of moot and/or confusing.

SECOND: Argument regarding different classification is not applicable to the selection of species, the Examiner does not need to show separate classification or field of search for election of the species requirement. See 803.00 and 808.01(a); M.P.E.P.

THIRD: These species are different as pointed out by the Applicants themselves, so by definition they are mutually exclusive, otherwise the Applicants would have stated that they obvious variations of each other.

NOTE: As pointed out during the interview properly worded claims would make claim 10 independent and since claims 11-18 are dependent upon claim 10, all claims 10-18 are treated together for restriction. Claims 10-18 belong to class 369 subclass 44.19 while claims 1-9 belong to class 369, subclass 112.26. More importantly claims 10-18 read on

non-elected species I [fig. 1]. While claims 1-8 belong to elected species II [fig. 5].  
Therefore claims 10-18 are removed from further consideration.

NOTE: See also objection to claims 10-18, infra.

The requirement is still deemed proper and is therefore made **FINAL**.

### Specification

3. The disclosure is objected for following reasons.

This application does not contain an Abstract of the Disclosure as required by 37 C.F.R. § 1.72(b). An Abstract on a separate sheet is required.

Applicant is reminded of the *proper language* and **format** of an Abstract of the Disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the **range of 50 to 150 words**. It is important that the **abstract not exceed 150 words in length** since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said", should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," *etc.*

In the present Application, in the abstract the invention itself is not described. Abstract is vague and **too short**. Also no figure should be present in an abstract. Reference to fig. 1 should be removed.

Also The title of the invention is neither precise nor descriptive. A new title is required which should include, using twenty words or fewer, claimed features that differentiate the invention from the Prior Art. It is recommended that the title should reflect the gist of or the improvement of the present invention.

Corrections are required.

### CLAIM OBJECTION

4. The claims 10-18 are objected for the following reasons

Claims 10-18 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. It is not clear if claim 10 is independent or not in its present format. Claim 10 could be written in independent form including all the limitations of the claim 1 or claims 10-18 should be cancelled. Since claims 1-8 are already elected for the prosecution, claims 10-18 should be cancelled now.

### Claim Rejections - 35 U.S.C. § 103

5. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-6 and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ota et al., US. patent 6,687,209 (hereafter Ota) in view of Hendriks et al., US. patent 6,707,607 (hereafter Hendriks).

As to claim 1, Ota discloses the invention as claimed [see Figs. 1-3], including An optical element, first and second beam and phase structure comprising:

An optical element for providing wavefront aberration compensation with a first radiation beam [660 nm] having a first polarization and a second radiation beam [785 nm] having a substantially orthogonal, second polarization, [col. 25, line 61 to col. 26, line 6] the optical element including a part formed of polarization sensitive material and having a surface to be located in the path of the first and second radiation beams, said surface comprising a phase structure in the form of stepped annular zones [col. 24, line 42 to col. 25, line 25 and figs. 1 and 3].

Ota discloses all of the above elements, including first and second beams of different wavelengths and stepped annular zones [fig. 1, area 13] and pattern formation. Ota does not specifically what kind of pattern is being formed by these zones.

However, it is well known in the art that many lenses have annular zones with non-periodic phase structures especially when comatic aberration needs to be removed from the objective lens. Also one of ordinary skill in the art would have known that a structure with relatively large field tolerance is a good thing to have Also Hendriks clearly discloses:

the zones forming a non-periodic pattern of optical paths of different lengths, differences in the optical paths [col. 1, line 38 to col. 2, line 10].

Both Ota and Hendriks are interested in improving the wavelength selection with minimum parts and both are interested in improving the performance of the system.

One of ordinary skill in the art at the time of invention would have realized that the field angles on the optical systems vary and large tolerance is a good thing to have in the system. Therefore, it would have been obvious to have used a non-periodic phase structure in the system of Ota as taught by Hendriks because one would be motivated to increase the field tolerance and thus provide significantly improved performance in the system of Ota .

7. As to claim 2, it recites the following features, inter alia, disclosed in Hendriks:  
the difference in wavefront aberration compensation approximates to spherical aberration [col. 2, lines 26-40].

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8. As to claim 3, it recites the following features, inter alia, disclosed in Ota:  
the wavefront aberration compensation is approximately zero for the second radiation beam when the second radiation beam consists of a predetermined wavelength [col. 22, line 66 to col. 23, line 24].

9. As to claim 4, combination of Ota and Hendriks teaches all of the above elements. Combination does not specifically teach well known liquid crystal material for optical use which inherently has uniform birefringence. "Official Notice" is taken that both the concept and the advantages of providing a liquid crystal as an optical element which has uniform birefringence are well known and expected in the art. It would have been obvious to include a liquid crystal as this liquid crystal materials are known to provide uniform birefringence and easy to handle characteristics thereby saving time and money on material for the optical devices. These concepts are well known in the art and do not constitute a patentably distinct limitation, per se [M.P.E.P. 2144.03].

10. As to claim 5, it recites the following features, inter alia, disclosed in Ota:  
a part having the effect of a quarter wavelength retarder [fig. 3, unit 14] [col. 24, lines 47-57].

11. As to claim 6, combination of Ota and Hendriks discloses all of the above elements including retarder plate [1/4 plate] and polarization sensitive part. Combination does not disclose that these two parts are attached along a planar surface. However combining two parts is well known in the art. It would have been obvious to a person of ordinary skill at the time of the invention to have combined these two parts into the system of Ota and Hendriks because doing so would make design more robust and easy to handle. As shown in "In re Larson 144 USPQ 347 (CCPA 1965) to make parts integral is generally not given patentable weight or would have been obvious improvements.

12. As to claim 9, it recites the following features, inter alia, disclosed in Hendriks:  
said surface includes between 5 and 25 zones [col. 2, lines 1-14].

NOTE: 10 is between 5 and 25.

13. Claims 7-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over 1 and Hendriks as applied to claims 1-6 and 9 above, and further in view of Sugita et al., US. patent 5,311,494 (hereafter Sugita).

As to claims 7-8 combination of Ota and Hendriks teaches all of the above elements. Combination does not specifically teach well known non-polarizing part [such as half mirror]. "Official Notice" is taken that both the concept and the advantages of providing a non-polarizing with a polarizing part and combining them together in a system are well known and expected in the art. It would have been obvious to include a combination non-polarizing part and polarizing part as these combination are known to provide the system with more compact design and which results in reduction of the manufacturing cost. These concepts are well known in the art and do not constitute a patentably distinct limitation, per se [M.P.E.P. 2144.03].

#### **Other prior art cited**

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure
- a. Nishiyama et al. (US. patent 6,580,674) "Phase shifter ..".
  - b. Saito et al. (US. patent 6,636,365) Optical pickup ..
  - c. Iwasaki (US. patent 6,643,244) Liquid crystal panel
  - d. Injeyan et al. (US. patent 5,640,406) Birefringence compensated laser ..".
  - e. Sugita et al. (US. patent 5,31,494) Optical disk ...



**Contact Information**

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.

A handwritten signature in black ink, appearing to read 'Gautam R. Patel', with a horizontal line extending from the end of the signature.

Gautam R. Patel  
Primary Examiner  
Group Art Unit 2655

April 2, 2004